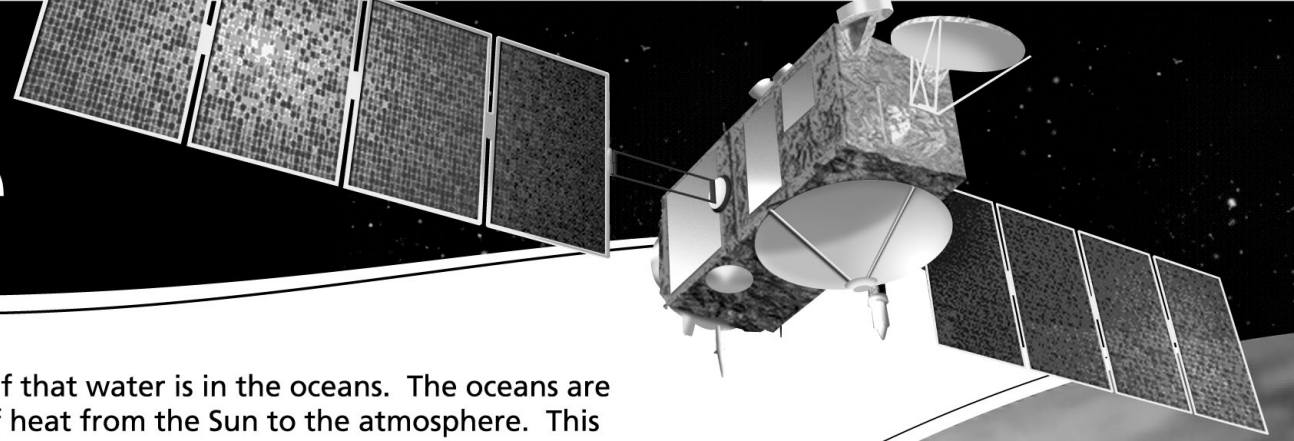
The Oceans' Role in Climate



Water covers 71% of Earth's surface; more than 97% of that water is in the oceans. The oceans are permanently in motion, redistributing vast amounts of heat from the Sun to the atmosphere. This constant exchange of heat between the oceans and atmosphere is a dance that drives our climate and allows Earth to support the varied life that, so far, has been found only here.

Jason-1 will add to the ten-year database of ocean surface topography from Topex/Poseidon, accurately measuring the highs and lows of the ocean surface and revolutionizing our knowledge of ocean circulation and its effects on global weather and climate.

Like Topex/Poseidon, Jason-1 uses a radar altimeter to make precise measurements of sea surface height. These data provide information about the amount of heat stored in the ocean and about surface currents and near-surface winds.

Measurements from Topex/Poseidon led to early prediction of the great El Niño of 1997–1998 that caused extreme disruptions of weather patterns worldwide.

Jason-1 extends the role of Topex/Poseidon in climate research and continues the goal of building a long-term data set of the Earth's ocean surface topography.

The Topex/Poseidon and Jason-1 missions are part of the National Aeronautics and Space Administration's (NASA's) Earth science program, a coordinated, long-term research effort to study our planet as a single global environment. It is a joint mission between the space programs of the United States (NASA) and France (Centre National d'Etudes Spatiales) that is managed by the Jet Propulsion Laboratory/California Institute of Technology in Pasadena, California.

Please visit our websites:
http://sealevel.jpl.nasa.gov
http://www.aviso.oceanobs.com

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